

Patent
Serial No. 10/537,877

Appeal Brief in Reply to Final Office Action of September 25, 2007,
and Advisory Action of December 11, 2007

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of

GILLIAN ANTOINETTE MIMNAGH-KELLEHER ET AL.

Serial No. 10/537,877

Filed: JUNE 7, 2005

Title: ACTIVITY MONITORING

APPEAL BRIEF

Appellants herewith respectfully present a Brief on Appeal as follows, having filed a Notice of Appeal on December 19, 2007:

REAL PARTY IN INTEREST

The real party in interest in this appeal is the assignee of record Koninklijke Philips Electronics N.V., a corporation of The Netherlands having an office and a place of business at Groenewoudseweg 1, Eindhoven, Netherlands 5621 BA.

RELATED APPEALS AND INTERFERENCES

Appellants and the undersigned attorney are not aware of any other appeals or interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 26-35 are pending in this application where claims 1-25 are canceled. Claims 26-35 are rejected in the Final Office Action mailed September 25, 2007. This rejection was upheld, in an Advisory Action that issued December 11, 2007. Claims 26-35 are the subject of this appeal.

STATUS OF AMENDMENTS

Appellants filed on November 5, 2007 an after final amendment in response to a Final Office Action mailed on September 25, 2007. The after final amendment includes a minor amendment to claim 29 and was entered as indicated in the Advisory Action mailed on December 11, 2007. Further, Appellants are concurrently filing a second after final amendment that includes amendments to independent claims 26 and 31 as suggested in the Advisory Action of December 11, 2007, entry of which is respectfully requested. This Appeal Brief is in response to the Final Office Action mailed on September 25, 2007, that finally rejected Claims 26-35, which remain finally rejected in the Advisory Action mailed on December 11, 2007.

SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention, for example, as recited in independent claims 26 and 31, is directed to a method of monitoring activity and an activity monitor comprising a measurement unit 11 shown in FIG 1, and described on page 2, lines 23-32 of the specification. The measurement unit includes a plurality of motion sensors configured to produce sensor signals indicative of motion of the plurality of motion sensors. A processor 12 is configured to receive the sensor signals from the measurement unit 11, and to process the sensor signals as vector components of a vector to produce a magnitude of the vector using a lookup table, as described on page 3, lines 28-33 of the specification. The magnitudes corresponding to the vector components are stored in the lookup table. Using such a lookup table to obtain magnitudes, instead of calculating the magnitudes of the vector components, is more efficient and enables lower power consumption.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 26 and 31 of U.S. Patent Application Serial No. 10/537,877 are unpatentable under 35 U.S.C. §102(e) and §103(a) over U.S. Patent No. 6,436,052 (Nikolic) as well as over U.S. Patent No. 6,122,960 (Hutchings) in view of Nikolic over U.S. Patent No. 6,160,478 (Jacobsen) in view of Nikolic.

ARGUMENT

Independent claims 26 and 31 are said to be unpatentable over Nikolic, Hutchings and Nikolic, or over Jacobsen and Nikolic.

Appellants respectfully request the Board to address the patentability of independent claims 26 and 31, and further claims 27-30 and 32-35 as depending from independent claims 26 and 31, based on the requirements of independent claims 26 and 31. This position is provided for the specific and stated purpose of simplifying the current issues on appeal. However, Appellants herein specifically reserve the right to argue and address the patentability of claims 27-30 and 32-35 at a later date should the separately patentable subject matter of claims 27-30 and 32-35 later become an issue. Accordingly, this limitation of the subject matter presented for appeal herein, specifically limited to discussions of the patentability of independent claims 26 and 31 is not intended as a waiver of Appellants' right to argue the patentability of the further claims and claim elements at that later time.

As correctly noted in the Final Office Action (e.g., page 8,

last paragraph, and page 11, third full paragraph), Hutchings and Jacobsen do not teach or suggest the present invention as recited in independent claim 26, and similarly recited in independent claim 31, which recites (illustrative emphasis provided):

to process the sensor signals as vector components of a vector to produce a magnitude of the vector using a lookup table of stored magnitudes and associated vector components.

Nikolic is cited in an attempt to remedy the deficiencies in Hutchings and Jacobsen.

Nikolic mentions a look-up table just once, namely on column 7, lines 22-31, which recites:

In step 310 the acceleration output or data for each axis is added to a cumulative sum for the corresponding axis. The acceleration data is compared to the minimum and maximum values of the information obtained in step 305. If the data point is a new minimum or maximum, the data point is saved on storage device 250 of FIG. 2. By way of example, this can be done by employing a look-up table in ROM and taking the magnitude of the resultant values, or alternatively by designating one axis to determine the maximum and minimum data points.

A careful reading of column 7, lines 22-31, indicates that the Nikolic look-up table is used to determine "new minimum or maximum"

of raw data, i.e., of acceleration data output from the Nikolic accelerometer. There is simply no teaching or suggested in Nikolic of producing "a magnitude of the vector using a lookup table of stored magnitudes [of vectors] and associated vector components," as recited in independent claim 26, and similarly recited in independent claim 31. (Illustrative emphasis provided)

The above noted section of Nikolic specifically recites "employing a look-up table in ROM and taking the magnitude of the resultant values." This clearly indicates that the Nikolic look-up table does not store any "magnitude", but rather stores other values. Once the values stored in the Nikolic look-up table are determined or read as "resultant values," then the magnitude of the resultant values is determined, which magnitude is NOT determined from any magnitude values stored in the Nikolic look-up table.

The Nikolic look up table merely stores raw data, and does not store any magnitudes of vectors, as recited in independent claims 26 and 31. Surely, if it was obvious "to produce a magnitude of the vector using a lookup table of stored magnitudes," then Nikolic would have at least suggested doing do.

Instead of producing "a magnitude of the vector using a lookup table of stored magnitudes," as recited in independent claims 1 and 31, Nikolic calculates "the dynamic acceleration magnitude ... through the use of ... equations," as specifically recited on column 12, lines 43-47, and column 18, lines 9-11. (Emphasis added)

Further, column 23, lines 6-8 of U.S. Patent No. 6,452,961 (Van Wechel), recited in the last paragraph of the Advisory Action of December 11, 2007, merely recites that other "methods for computing or approximating the magnitude of a vector include the use of lookup table." It is respectfully submitted that this recitation of Van Wechel does not teach or suggest that the lookup table stores "magnitudes and associated vector components," as recited in independent claims 26 and 31.

Based on the foregoing, it is respectfully submitted that independent claims 26 and 31 are allowable, and allowance thereof is respectfully requested. In addition, it is respectfully submitted that claims 27-30 and 32-35 should also be allowed at least based on their dependence from independent claims 26 and 31.

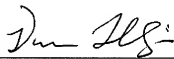
In addition, Appellants deny any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, the Appellants reserve the right to submit further arguments in support of the above stated position, should that become necessary. No arguments are waived and none of the Examiner's statements are conceded.

CONCLUSION

Claims 26-35 are patentable over Nikolic, Hutchings and Jacobsen.

In view of the above, it is respectfully submitted that the Examiner's rejection of claims 26-35 should be reversed.

Respectfully submitted,

By 
Dicran Halajian, Reg. 39,703
Attorney for Appellants
January 28, 2008

THORNE & HALAJIAN, LLP
Applied Technology Center
111 West Main Street
Bay Shore, NY 11706
Tel: (631) 665-5139
Fax: (631) 665-5101

CLAIMS APPENDIX

Claims 1-25 (Canceled)

26. (Previously Presented) An activity monitor comprising:

a measurement unit including a plurality of motion sensors configured to produce sensor signals indicative of motion of the plurality of motion sensors; and

a processor configured to receive the sensor signals from the measurement unit, and to process the sensor signals as vector components of a vector to produce a magnitude of the vector using a lookup table of stored magnitudes and associated vector components.

27. (Previously Presented) The activity monitor of claim 26, wherein the motion sensors are accelerometers.

28. (Previously Presented) The activity monitor of claim 26, wherein the motion sensors are arranged to be mutually orthogonal.

29. (Previously Presented) The activity monitor of claim 26, wherein the processor is further configured to calculate the magnitude of the vector according to the following expression:

$$|a| = \sqrt{a_x^2 + a_y^2 + a_z^2},$$

where $|a|$ is the magnitude of the vector, a_x , a_y and a_z are the vector components included in the sensor signals.

30. (Previously Presented) The activity monitor of claim 26, wherein the processor is further configured to calculate a direction of the vector.

31. (Previously Presented) A method of monitoring activity comprising the acts of:

producing sensor signals indicative of motion of a plurality of motion sensors; and

processing the sensor signals as vector components of a vector to produce a magnitude of the vector using a lookup table of stored magnitudes and associated vector components.

32. (Previously Presented) The method of claim 31, wherein the motion sensors are accelerometers.

33. (Previously Presented) The method of claim 31, further comprising the act of arranging the motion sensors to be mutually orthogonal.

34. (Previously Presented) The method of claim 31, wherein the processing act further includes the act of calculating the magnitude of the vector according to the following expression:

$$|a| = \sqrt{a_x^2 + a_y^2 + a_z^2},$$

where $|a|$ is the magnitude of the vector, a_x , a_y and a_z are the vector components included in the sensor signals.

35. (Previously Presented) The method of claim 31, further comprising the act of calculating a direction of the vector.

EVIDENCE APPENDIX

None

Patent
Serial No. 10/537,877
Appeal Brief in Reply to Final Office Action of September 25, 2007,
and Advisory Action of December 11, 2007

RELATED PROCEEDINGS APPENDIX

None